

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A position/force control device, comprising[[:]] :

- (i) position detection means for detecting the a position of an object;
- (ii) driving means for driving the ~~said~~ object;
- (iii) reaction force detection means for estimating a reaction force which the object receives, where the reaction force is detected indirectly based on the basis of a position signal outputted from the ~~said~~ position detection means and a driving signal applied to the driving means; and
- (iv) control means for ~~estimating~~ calculating a first acceleration signal from the reaction force which the object undergoes and the a goal force signal, and further ~~estimating~~ calculating a second acceleration signal from the position signal and the a goal position, and outputting the a generated driving signal to said driving means, the generated driving signal being based on the basis of said first and second acceleration signals.

Claim 2 (currently amended): A position/force control device for controlling the a position of the an object and force on the object in response to position command signals and force command signals, comprising [[:]] :

- (i) driving means for driving the ~~said~~ object;
- (ii) position detection means for detecting a position of the object;
- (iii) reaction force detection means for estimating the a reaction force undergone by the object, where the reaction force is detected indirectly based on from an acceleration signal estimated from a position signal outputted by from the position detection means and from a driving signal ~~transmitted~~ applied to the driving means;
- (iv) first calculation means for ~~estimating~~ calculating a deviation difference between a position command signal and a position signal outputted by the position detection means and converting the ~~deviation~~ difference signal to a first acceleration signal;

(v) second calculation means for ~~estimating~~ calculating a deviation second difference between the reaction force detected by the reaction force detection means and a force command signal and converting the second deviation difference signal to a second acceleration signal; and

(vi) control means for adding the said first and second acceleration signals and outputting the a generated driving signal to the driving means, the generated driving signal being based on said first and second acceleration signals.

Claim 3 (currently amended): A position/force control device for controlling positions of an object on a slave side and of an operation part on a master side in response to a position difference between the operation part on the master side and the object on the slave side to drive the object with driving force in response to ~~the~~ an operation force on the master side and transmit ~~the~~ a reaction force of the slave side to the master side, comprising[[:]] :

(i) first driving means for driving the operation part on the master side;

(ii) first position detection means for detecting the a first position of the operation part on the master side;

(iii) first reaction force detection means for ~~estimating~~ a first reaction force acted on the ~~said operation part, where the first reaction force is indirectly detected based on from~~ an acceleration signal estimated from a first position signal outputted by from the first position detection means and from the a first driving signal transmitted applied to the said first driving means;

(iv) second driving means for driving the object on the slave side;

(v) second position detection means for detecting the a second position of the object on the slave side;

(vi) second reaction force detection means for ~~estimating~~ a second reaction force undergone by the object, where the second reaction force is indirectly detected based on from an acceleration signal estimated from the a second position signal outputted by from the said second position detection means and from the a second driving signal transmitted applied to the said second driving means;

- (vii) first calculation means for ~~estimating~~ calculating a difference between the first position signal outputted by the ~~said~~ first position detection means and the second position signal outputted by the ~~said~~ second position detection means and converting the ~~said~~ difference to the first and second acceleration control signals for controlling the master side and the slave side;
- (viii) second calculation means for ~~estimating~~ calculating ~~the~~ a sum of outputs of ~~said~~ the first and the second reaction force detection means, and converting the ~~said~~ sum to the third and fourth acceleration control signals for controlling the master side and the slave side;
- (ix) first addition means for adding the ~~said~~ first and the third acceleration control signals;
- (x) second addition means for adding the ~~said~~ second and the fourth acceleration control signals;
- (xi) first control means for outputting ~~the~~ a first generated driving signal to the operation part on the master side based ~~on the basis of the~~ an output of the ~~said~~ first addition means; and
- (xii) second control means for outputting a second generated driving signal to the object on the slave side based ~~on the basis of~~ an output of the ~~said~~ second addition means.